IN THE CLAIMS

1. (Currently amended)   A method for <u>configuring a communication device</u> <u>having a processor that can process digital tuning words no larger than 24 bits, to</u> <u>increase</u> ~~increasing the~~ <u>its</u> ranging offset resolution/accuracy <u>when</u> ~~of a communication device~~ attempting–to adjust ~~its~~ <u>the</u> upstream carrier frequency to which it is currently tuned to match a desired frequency, comprising:

determining a frequency offset based on the difference between the actual currently tuned frequency and the desired frequency;

digitizing the frequency offset into a frequency offset word; and

tuning the communication device by adjusting the actual currently tuned frequency by an amount corresponding to the digitized frequency offset word, so that the newly tuned actual frequency is the previously tuned actual frequency plus or minus the absolute value of the digitized frequency offset word.

2. (Original)   The method of claim 1 wherein the frequency offset word is applied to a currently tuned frequency word.

3. (Original)   The method of claim 2 wherein the currently tuned frequency word resides in the communication device.

4. (Original)   The method of claim 1 wherein the communication device is a cable modem.

5. (Previously amended)   The method of claim 1 wherein digitizing the frequency offset results in truncation, or quantization, error, and wherein the truncation error is stored.

6. (Previously amended)   The method of claim 5 wherein the stored truncation error is used to facilitate generating a frequency offset message if the frequency offset word is to be applied to the currently commanded frequency instead of

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the actual frequency.

7. (Original)   The method of claim 1 wherein the desired frequency is a new frequency with respect to a most recently commanded frequency.

8. (Currently amended)   A method for <u>configuring a cable modem that uses a processor that can process digital tuning words no larger than 24 bits, to increase</u> ~~increasing~~ <u>its</u> ranging offset resolution/accuracy ~~of~~ <u>when</u> ~~a cable modem~~ attempting to adjust ~~its~~ <u>the</u> upstream frequency to which it is currently tuned to match a desired frequency, comprising:

determining at a CMTS the actual upstream transmission frequency of the cable modem;

determining at the CMTS a frequency offset based on the difference between the actual currently tuned frequency and the desired frequency;

digitizing the frequency offset into a frequency offset word; and

tuning the cable modem by adjusting the actual currently tuned frequency by an amount corresponding to the frequency offset word.

9. (Original)   The method of claim 8 wherein the frequency offset word is applied to a currently tuned frequency word.

10. (Currently amended)   The method of claim 9 wherein the currently tuned frequency word resides in the ~~communication device~~ <u>cable modem</u>.

11. (Original) The method of claim 8 wherein digitizing the frequency offset results in truncation, or quantization error, and wherein the truncation error is stored.

12. (Currently amended)   The method of claim 11 wherein the stored truncation error is used to facilitate generating ~~the~~ <u>a</u> frequency offset message if the <u>frequency</u> offset word is to be applied to the currently commanded frequency instead of the actual frequency.

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13-18. (Canceled)

19. (New)   A communication device that uses a processor that can process digital tuning words no larger than 24 bits to increase its ranging offset resolution/accuracy when attempting to adjust the upstream frequency to which it is currently tuned to match a desired frequency, configured by a method, the method comprising:

determining at a CMTS the actual upstream transmission frequency of the cable modem;

determining at the CMTS a frequency offset based on the difference between the actual currently tuned frequency and the desired frequency;

digitizing the frequency offset into a frequency offset word; and

tuning the cable modem by adjusting the actual currently tuned frequency by an amount corresponding to the frequency offset word.

20. (New)   The method of claim 19 wherein the communication device is a cable modem and wherein the communication symbols are quadrature amplitude modulation symbols.